TENNESSEE DEPARTMENT OF EDUCATION
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Web Design Practicum

Primary Career Cluster:	Information Technology (IT)
Consultant:	Casey Haugner Wrenn, (615) 532-4879, Casey.Haugner@tn.gov
Course Code:	6171
Prerequisite(s):	*Web Site Development* (6101)
Credit:	1
Grade Level:	11-12
Graduation Requirement:	This course satisfies one of three credits required for an elective focus when taken in conjunction with other IT courses.
Programs of Study and Sequence:	This is the fourth course in the *Web Design* program of study.
Aligned Student Organization(s):	Future Business Leaders of America (FBLA) www.fblatn.org Sarah Williams, (615) 532-2829, Sarah.G.Williams@tn.gov Skills USA: http://www.tnskillsusa.com Brandon Hudson, (615) 532-2804, Brandon.Hudson@tn.gov Technology Student Association (TSA): http://www.tntsa.org Amanda Hodges, (615) 532-6270, Amanda.Hodges@tn.gov
Coordinating Work-Based Learning:	Teachers who hold an active WBL certificate may offer placement for credit when the requirements of the state board's WBL Framework and the Department's WBL Policy Guide are met. For information, visit http://tn.gov/education/cte/work_based_learning.shtml.
Available Student Industry Certifications:	CIW Internet Business Associate
Dual Credit or Dual Enrollment Opportunities:	There are no known dual credit/dual enrollment opportunities for this course. If interested in developing, reach out to a local postsecondary institution to establish an articulation agreement.
Teacher Endorsement(s):	070, 203, 204, 230, 231, 232, 233, (042 and 043), (042 and 044), (042 and 045), (042 and 046), (042 and 047), (042 and 077), (042 and 078), (042 and 079), (043 and 044), (043 and 045), (043 and 046), (043 and 047), (043 and 077), (043 and 078), (043 and 079), (044 and 045), (044 and 046), (044 and 047), (044 and 077), (044 and 078), (044 and 079), (045 and 046), (045 and 047), (045 and 077), (045 and 078), (045 and 079), (046 and 047), (046 and 077), (046 and 078), (046 and 079), (046 and 047), (047 and 079), (047 and 077), (047 and 078), (077 and 078), (077 and 079), (078 and 079), 153, 157, 311, 435, 436, 470, 475, 476, 477, 516, 519, 582, 583, 595, 543, 711, 740

Approved January 30, 2015

Required Teacher Certifications/Training:	CIW Association Foundation Certification or CIW Site Designer Industry Certification. For endorsements 037, 041, 055, 056, 057, 203, 204, 311, 434, 435, 436, 475, 476,153 CIW Web Design Specialist Industry Certification required in 2015-16.
Teacher Resources:	http://www.tn.gov/education/cte/InformationTechnology.shtml

Course Description

Web Design Practicum is a capstone course intended to provide students with the opportunity to apply the skills and knowledge learned in previous *Web Design* courses toward the completion of an in-depth project with fellow team members. Students who have progressed to this level in the *Web Design* program of study take on more responsibilities for producing independent work and managing processes involved in the planning, designing, refinement, and launch of a website. In addition to developing an understanding of the professional and ethical issues encountered by web design professionals in the workplace, students learn to refine their skills in problem solving, troubleshooting, teamwork, marketing and analytics, and project management. Upon completion of the practicum, proficient students will be prepared for postsecondary study and career advancement in web design. Standards in this course are aligned with Tennessee State Standards for English Language Arts & Literacy in Technical Subjects and Tennessee State Standards in Mathematics.*****

Work-Based Learning Framework

Practicum activities may take the form of work-based learning (WBL) opportunities (such as internships, cooperative education, service learning, and job shadowing) or industry-driven project-based learning. These experiences must comply with the Work-Based Learning Framework guidelines established in SBE High School Policy 2.103. As such, this course must be taught by a teacher with an active WBL Certificate issued by the Tennessee Department of Education and follow policies outlined in the Work-Based Learning Policy Guide available online at http://www.tn.gov/education/cte/work_based_learning.shtml. The Tennessee Department of Education provides a *Personalized Learning Plan* template to ensure compliance with the Work-Based Learning Framework, state and federal Child Labor Law, and Tennessee Department of Education policies, which must be used for students participating in WBL opportunities.

Program of Study Application

This is the fourth course in the *Web Page Design* program of study. For more information on the benefits and requirements of implementing this program in full, please visit the Information Technology website at http://www.tn.gov/education/cte/InformationTechnology.shtml.

Course Standards

Web Design Career Planning

1) Research a company or organization that provides web design/development services for clients. Companies could range from large design firms serving corporate clients, to independent freelance businesses operating in the local community. For the chosen company, cite specific textual evidence from the company's literature, as well as available press coverage (if available) to summarize:
    a. The mission and history of the organization

b. Headquarters and organizational structure
c. Products or services provided
d. Credentials required for employment and how they are obtained and maintained
e. Policies and procedures
f. Reports, newsletters, and other documents published by the organization
g. Website and contact information

(TN Reading 1, 2; TN Writing 7)

2) Analyze the requirements and qualifications for various web design job postings identified from specific company websites or online metasearch engines. Gather information from multiple sources, such as sample resumes, interviews with web design professionals, and job boards, to determine effective strategies for realizing career goals. Create a personal resume modeled after elements based on the findings above, then complete an authentic job application as part of a career search or work-based learning experience. (TN Reading 4, 9; TN Writing 4, 7, 8)

3) Participate in a mock interview. Prior to the interview, research tips on dress and grooming, most commonly asked interview questions, appropriate conduct during an interview, and recommended follow-up procedures. Upon completion of the interview, write a thank you letter to the interviewer in a written or email format. (TN Reading 2; TN Writing 2, 4, 7, 9)

Professional Ethics and Legal Responsibilities

4) Investigate a range of unethical and illegal behaviors frequently encountered by web design professionals. Summarize the legal and professional consequences for engaging in these behaviors, developing claims and counterclaims about the potential ramifications for clients, users, the public, and one's own personal reputation. Deliver findings in the form of a summary document or presentation supported by evidence from news media, company policies, and state and federal laws. Potential issues include spam, flaming, cyberbullying, libel, slandering, and mining of personal data for profit. (TN Reading 1, 2, 4, 8, 9; TN Writing 1, 4, 6, 7)

5) Research a case study involving an ethical issue related to intellectual property rights. Examine a variety of perspectives surrounding the issue, then develop an original analysis explaining the impact of the issue on those involved, using persuasive language and citing evidence from the research. Potential issues include copyright infringement, piracy, plagiarism, art licensing, creative commons, and the state/federal laws that govern them. (TN Reading 1, 2; TN Writing 1, 4, 6, 7)

Course Project

6) Meet with a potential or mock client who requires a web-based digital product, and discuss the client's wants and needs for the product. In teams or individually, work to develop a project plan, set goals, delegate responsibilities, and determine deadlines to meet the client's specifications. Analyze available resources, then formulate and present a written proposal for the potential client detailing the following:
    a. Summary of product solution that can be offered
    b. Strategy for addressing the needs of the client
    c. Schedule of completion

d. Cost to the client, including justification of expenses
(TN Reading 7; TN Writing 1, 2, 6)

7) In teams or individually, develop a site map outlining the architecture of the web page(s) to be created in the project. Demonstrate the ability to group content in the form of a flowchart or other visual representation, and apply principles related to continuity of design. (TN Reading 3, 5, 7)

8) Work together to assemble adequate documentation of project activities, including end-user documentation. Be able to explain to both lay and technical audiences how various aspects of the site and/or digital product were developed and how they function. For example, annotate code where appropriate such that another web designer could replicate it; or explain to a first-time user how a form developed for the site retrieves and stores information in a remote database. (TN Reading 3, 4, 5, 6; TN Writing 2, 4, 6, 7)

9) Maintain accurate and accessible directories of files relevant to the project, and develop agreements among team members and client surrounding data management, naming conventions, version control, editing permissions, and sharing of files (for example, through cloud-based services or shared drives). (TN Reading 3)

10) Use appropriate authoring software to execute the project plan in line with budget constraints, server size, deadlines, and all other specifications in order to meet the vision of the client. In the course of development, apply coding skills to design, organize, create, maintain, and update the site or digital product as needed. (TN Reading 3, 7; TN Writing 4, 6, 7)

Advanced Troubleshooting, Critiquing, & Problem Solving

11) In the course of developing the web-based project, regularly test the site for functionality, navigability, browser and device compatibility, and other design aspects related to user friendliness. Conduct and document the proper code validation to fix broken links, distorted images, and similar errors. (TN Reading 3, 8; TN Writing 5, 6, 7)

12) Analyze the code written by another team member or peer and create a flowchart for suggesting changes to improve functionality. Cite specific examples in the code to support recommendations. (TN Reading 1, 2, 3, 4, 5, 6, 7, 8; TN Writing 1, 4, 6)

13) Apply coding skills learned in previous courses to novel contexts and development environments. For example, investigate methods for scaling the site or digital product onto a mobile device using responsive design. Where appropriate, incorporate the proper CSS code to render a site compatible on multiple web platforms. (TN Writing 6, 7)

Web Marketing and Analytics

14) Research factors that affect the sale and distribution of products and services over the Internet, such as the wide availability of customer feedback on sites like Amazon, Yelp, and Google. Select a company whose products/services are purchased online; describe how the factors identified above influence the design of the company's website. Critique the effectiveness of the site in

promoting the company's product/service, citing evidence related to user friendliness, accessibility, tone, and composition. (TN Reading 5, 6, 8; TN Writing 1, 9)

15) Analyze a range of web marketing strategies and cite examples of how businesses use them to drive web traffic. Strategies include but are not limited to social media marketing, image-centric content marketing, search engine optimization (SEO), email marketing, or mobile-friendly content. Deliver a mock presentation to "peer clients" outlining how one or more of these strategies could be incorporated to increase the web presence of a real or fictitious business. Drawing on success stories of similar companies, pitch the chosen strategy using persuasive language and relevant supporting data. (TN Reading 1, 4, 8, 9; TN Writing 1, 7, 8)

16) Describe how companies collect data using web analytics. Summarize a range of statistics used when tracking web traffic, such as unique page views, session duration, and bounce rate. Demonstrate the ability to collect and interpret analytics to achieve marketing goals; if applicable, incorporate such analysis into the course project. (TN Reading 1, 4, 8, 9; TN Writing 2, 9; TN Math S-ID)

17) Investigate the ways companies use web data to analyze demographic and psychographic information about their customers. Model to a "peer client" how an ordinary business owner can use IP geolocation, surveys, forms, and other tools to make strategic marketing decisions. (TN Reading 1, 4, 9; TN Writing 4)

Portfolio

18) Create a portfolio, or similar collection of work, that illustrates mastery of skills and knowledge outlined in the previous courses and applied in the practicum. The portfolio should reflect thoughtful assessment and evaluation of the progression of work involving the application of steps of the design process. The following documents will reside in the student portfolio:
    a. Personal code of ethics
    b. Career and professional development plan
    c. Resume
    d. Links to web pages designed or contributed to
    e. List of responsibilities undertaken through the course
    f. Examples of visual materials developed and used during the course (such as graphics, drawings, models, presentation slides, videos, and demonstrations)
    g. Description of technology used, with examples if appropriate
    h. Periodic journal entries reflecting on tasks and activities
    i. Feedback from instructor and/or supervisor based on observations

    (TN Reading 7; TN Writing 4, 5, 6)

Communication of Project Results

19) Produce a technical report highlighting the purpose, content, use, and intended audience of the web-based project. Cite evidence from the code and from web development best practices in order to justify design decisions and maximize client satisfaction. Include appropriate documentation of license agreements, copyright protections, non-disclosure statements, and other legal issues if dealing with the ideas or data of others. (TN Reading 1, 2, 3, 4, 5, 7, 8, 9; TN Writing 1, 5, 6, 7, 8, 9)

20) Upon completion of the practicum, develop a technology-enhanced presentation showcasing highlights, challenges, and lessons learned from the experience. The presentation should be delivered orally, but supported by relevant graphic illustrations, such as diagrams, flowcharts, sample code, and/or summary data generated from the site. Prepare the presentation in a format that could be presented to both a technical and a non-technical audience, as well as for a career and technical student organization (CTSO) competitive event. (TN Reading 1, 3, 7, 9; TN Writing 2, 4, 5, 6, 9)

Standards Alignment Notes

*References to other standards include:

- TN Reading: Tennessee State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects; Reading Standards for Literacy in Science and Technical Subjects 6-12; Grades 11-12 Students (page 62).
    - Note: While not directly aligned to one specific standard, students who are engaging in activities outlined above should be able to also demonstrate fluency in Standard 10 at the conclusion of the course.
- TN Writing: Tennessee State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects; Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-12; Grades 11-12 Students (pages 64-66).
    - Note: While not directly aligned to one specific standard, students who are engaging in activities outlined above should be able to also demonstrate fluency in Standards 3 and 10 at the conclusion of the course.
- TN Math: Tennessee State Standards for Mathematics; Math Standards for High School: Statistics and Probability.
    - Note: The standards in this course are not meant to teach mathematical concepts. However, the concepts referenced above may provide teachers with opportunities to collaborate with mathematics educators to design project-based activities or collaborate on lesson planning. Students who are engaging in activities listed above should be able to demonstrate statistical reasoning as applied to specific technical concepts. In addition, students will have the opportunity to practice the habits of mind as described in the eight Standards for Mathematical Practice.
- P21: Partnership for 21st Century Skills Framework for 21st Century Learning
    - Note: While not all standards are specifically aligned, teachers will find the framework helpful for setting expectations for student behavior in their classroom and practicing specific career readiness skills.